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TWO NEW CUCURBITACEAE FROM MEXICO

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Among Cucurbitaceae collected in Mexico by various University of Michigan expeditions are two apparently undescribed plants from the Pacific lowlands, one a species of *Sechiopsis,* the other a species allied to members of the genus *Sicydium,* but different in having a more specialized androecial structure, and variant in other characters. These two entities are described here, one as a new species, the other as a new genus and species.

Sechiopsis tetraptera Dieterle, sp. nov. Fig. 1.

S. triquetrae (Ser.) Naud. affinis, a qua fructibus barbatis acuminatisque et inflorescentia staminata laxa differt.

Herba scandens 2–10 m longa. Radix grosse fibrosa. Caules sat graciles sulcati plus minusve pubescentes vel glabrati internodiis 9–24 cm longis. Cirrhi plerumque 4-partiti. Foliorum lamina membranacea simplex ambitu late ovata, suborbicularis, vel reniformis usque ad 14 cm longa palmatim 3(–5)-lobata lobis basilaribus subauriculatis utrinque plus minusve scabridula hispidulaque subtus densius sinu basilari rectangulari; petiolus 1–3(–7) cm longus. Flores sat parvi viridulo-flavi viridinervi. Florum staminatorum inflorescentia paniculata ramulis paucis 5–23 cm longa glanduloso-puberula. Flos staminatus: pedicellus tenuis 10–21 mm longus; hypanthium cupuliforme 2.5–4 mm longum infime nectariis saccatis 10; sepala 5 subulata 0.3–1 mm longa; corollae lobi late triangulares 3.5–4 mm longi basin breviter connati; filamentorum columna tenuis 1.5 mm longa; antherarum capitulum truncate obpyriforme; thecae 5 triplicatae; pollinis granum 10-colpatum echinatum ca 55 μ diametro. Inflorescentia pistillata: florum fasciculus pedunculatus, pedunculo communi tenui 11–16 mm longo glanduloso-puberulento. Flos pistillatus flore staminato minoris; pedicellus tenuis 0.3–1.5 mm longus dense puberulentus; ovarium anguste ovato-attenuatum alatum rostratum inter alas dense lanatum; hypanthium cupuliforme 1.3–2.2 mm longum nectariorum saccatorum destitutum; sepala 4 (interdum 3) dentiformia vel subulata 0.3–0.6 mm longa; corollae lobi 4(3 si sepala 3) late triangulares 1.2–2.6 mm longi; stylus 1 tenuis 2.5–3.1 mm longus, glaber; stigmata 3 dilatata recurvata. Fructus siccus 1.5–2.5 cm longus indehiscens unilocularis quadrialatus (interdum trialatus) longe acuminatus inter alas albo-barbatus. Semen solitarium pendente laeve anguste ovoideum leviter compressum 7 mm longum 2.3 mm latum 1.4 mm crassum.

TYPE: MEXICO. JALISCO: Along the main highway from Guadalajara to Autlán and Barra de Navidad, about 19 km from Melaque, 8–9 Nov 1971, *Dieterle 4124* (MICH, holotype).

Additional representative specimens: JALISCO: Vicinity of Barra de Navidad, 23 Sep 1969, *Dieterle 3524;* along the highway between Barra de Navidad and Chamela, 10–12 Nov 1971, *Dieterle 4131, 4152, 4155A, 4159;* UNAM Biological Field Station, 7–8 km southeast of Chamela, 12 Feb 1975, *H. & M. Gentry 23537;* coastal plain near the highway to Autlán, 4 miles north of Bahía Navidad, 8 Nov 1960, *McVaugh 20829;* steep forested hills 2–6 km southeast of La Manzanilla, above Bahía Tenacatita on the new road to Melaque, 9 Dec 1970, *McVaugh 25043;* "Centro de Investigación

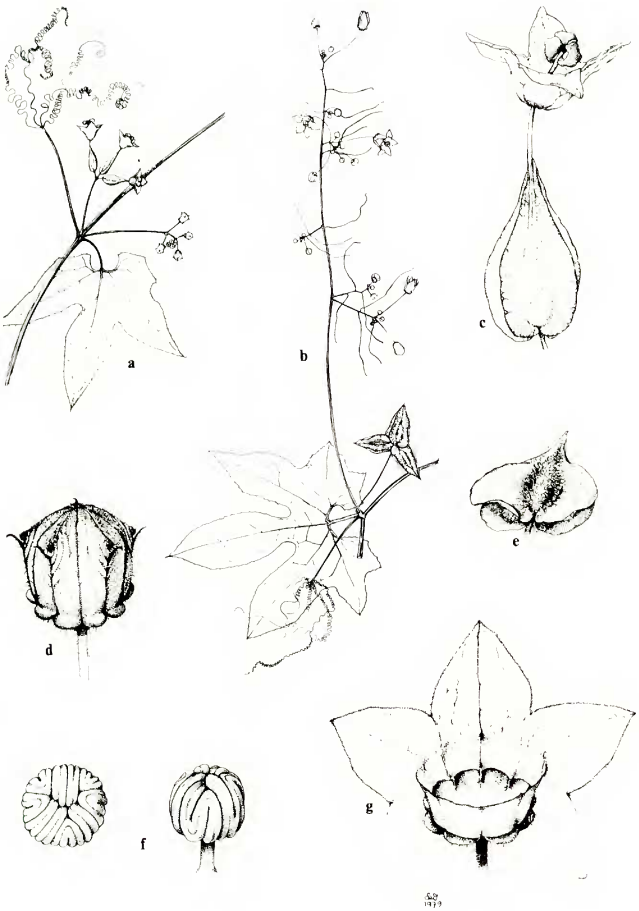

FIG. 1. *Sechiopsis tetraptera,* drawn from the type by Karin Douthit. a, node with pistillate inflorescence X 1; b, node with staminate inflorescence and fruit cluster X 0.5; c, pistillate flower X 5; d, staminate bud X 10; e, basal aspect of tilted fruit X 2.5; f, apical and lateral views of androecial head X 7.5; g, staminate flower with androecium removed X 5, semidiagrammatic.

y Experimentación de la UNAM," 8 km east of Chamela, 8–10 Dec 1970, *McVaugh 25086;* vicinity of Estación Biologica, UNAM, 3 km southeast of Chamela, 13–14 Feb 1975, *McVaugh 26258;* stream-valley crossing the highway to Autlán, 9 miles north of the road-junction at the west end of Bahía de Navidad, 12–13 Dec 1959, *McVaugh & Koelz 1744.* COLIMA: About 29 km east of Manzanillo, along route to Armeria, 25 Sep 1969, *Dieterle 3533;* along highway from Manzanillo to Colima, 12–13 Nov 1971, *Dieterle 4162, 4165.*

The genus *Sechiopsis* now includes two species, separable as follows:

S. triquetra (Ser.) Naud.: fruits ovoid, mostly 3-winged or -angled, the wings rounded at apex, the faces between wings finely and densely short-hispid to glabrous (never white-wooly); fruit clusters pedicellate and umbellate on short peduncles; staminate flowers in sessile or short-branched clusters along erect rachises, the inflorescences glabrous or nearly so; uplands, ca 600 m or higher.

S. tetraptera Dieterle: fruits long-acuminate, mostly 4-winged, the wings attenuate at apex, each face between wings adorned with a white-wooly stripe; fruit clusters nearly sessile at the tips of slender, drooping peduncles; staminate flowers loosely paniculate, the panicles 1–3-branched, glandular-pubescent; lowlands, sea level to ca 500 m.

Chalema Dieterle, gen. nov. [*Zanonieae - Sicydiinae* Pax] ex affinitate *Sicydii* Schlechtendal a qua staminibus connatis fructibus siccis et habitu monoecio differt.

Herba annua monoecia; radices fibrosae; folia simplicia cordata membranacea; cirrhi apice bifidi; flores pentameri minuti, masculis feminisque in paniculis parvis simul dispositis; corolla alba rotata usque ad basim 5-partita; staminum filamenta in columnam connata; connectiva non producta; antherarum loculi 5 ellipsoidei rimis unicis horizontalibus dehiscentes; pollinis granum prolatum striatum tricolporatum; floris pistillati calyx et corolla eis floris staminati similes; styli 3 liberi; fructus parvulus subglobosus monospermus siccus indehiscens; semen sphaericum pendente testa crustacea.

Species nominis generis typica: *Chalema synanthera* Dieterle.

Chalema synanthera Dieterle, sp. nov. Fig. 2.

Herba gracilis scandens aliquantum puberula vel glanduloso-puberula ubique; caules 1–3 m longi graciles striati parce ramosi; cirrhi longi subtiles; foliorum laminae membranaceae acuminatae 4–5(–5.5) cm latae; petioli graciles striati 1.5–3(–4) cm longi; paniculae parvae petiolis propinquis breviores vel vix longiores; flores circa 1.5–2 mm diametro; flores staminati floribus pistillatis circa 10-plo numerosiores; flos staminatus: pedicellus gracilis attenuatus inarticulatus ebracteatus 1.3–2.8 mm longus, hypanthium disciforme viride glabrum (0.4–)0.5–0.6 mm diametro, sepala ovata virella plus minusve villosula 0.3–0.4 mm longa, petala ovato-lanceolata alba vel albido-viridia 0.7–0.8 mm longa intus villosula vel marginibus villosulis, filamentorum columna viridis glabra gracilis (0.2–)0.25(–0.3) mm longa, antherarum capitulum 0.3 mm latum connectivis glabris, pollinis granum prolatum circa 30 μ longum 16 μ latum; flos pistillatus: ovarium ovoideum 0.7 mm longum plus minusve hispidulosum, styli graciles lineares vel uncinati; fructus 3–3.5 mm diametro pericarpio tenue puberulus et plus minusve hispidulus paulim rostratus floris vestigiis longe persistentibus; semen ca 3 mm diametro paulim rostratum testa verrucosa.

TYPE: MEXICO. MICHOACÁN: 11–13 km WSW of Apatzingán, along road to Dos Aguas and Aguililla, elev. ca 300 m, low hill with volcanic rocks and debris; thickly overgrown with shrubs, 5–9 Sep 1972, *Dieterle 4307* (MICH, holotype).

Distribution. Mexico (Jalisco and Michoacán). Known to me only from the type and one other collection: *McVaugh 25095,* 8 km E of Chamela, Jalisco, lowland forest of *Cordia, Caesalpinia, Thouinidium,* elev. 30–50 m, 8–10 Dec 1970.

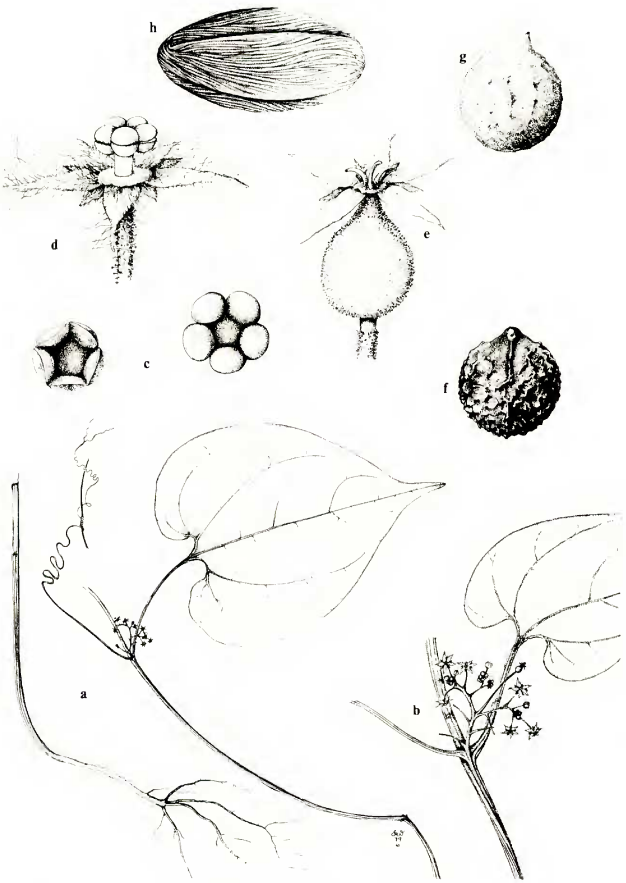

FIG. 2. *Chalema synanthera*, drawn from the type by Karin Douthit. a, root and fertile node X 1; b, fertile node X 2.5; c, anther sacs after and before dehiscence X 35; d, staminate flower X 25; e, pistillate flower with one sepal removed X 25; f, seed X 6; g, fruit X 6; h, pollen grain X 1500.

This species is the only representative of the subfamily *Zanonioideae* C. Jeffrey in Western Mexico. Its androecial structure, consisting of a central column of united filaments bearing a horizontal ring of anther sacs at its apex, is a primary character distinguishing it from members of the genus *Sicydium,* in which the androecium consists of three separate stamens, two double and one single. Its features of monoecy and annual habit are not found in any other known *Zanonioideae.* The genuineness of these attributes may therefore be doubted. However, the monoecious condition, evident in specimens taken from widely separated localities on dates months apart in the season, can hardly be dismissed as abnormal, and it is difficult to concede that these small fibrous-rooted vines may be perennial through the long and severe dry-season occurring yearly in their habitat. None of the material at hand, 25 sheets, includes vines that appear to be unisexual, or roots of a type other than fibrous.

Etymology: the generic name is an anagram of Chamela, a town near which the new species is reported to be frequent; the specific epithet alludes to the plant's androecial structure.